

Appl. No. 09/846,823  
Preliminary Amendment and  
Response to Office Action

Docket No. 85804-014501

### REMARKS

Claims 1 to 97 are the pending claims being examined in the application, of which Claims 1, 34, 39, 59 and 93 are independent. Claims 1, 39 and 59 are being amended. Reconsideration and further examination are respectfully requested.

Turning first to 35 U.S.C. § 112 rejections raised in the Office Action, Claims 1 to 33 and 59 to 97 are rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description and enablement requirements.<sup>1</sup> The Office Action states:

“[r]egarding claims 1, 39 and 59, a method or system to generate user log scores based exclusively on the detected (which implies implicit) user behavior was not described in the specification. Applicant's specification discloses [a, sic] recommendation made based on implicit and explicit data.” (Emphasis in original)

While Applicants agree that a recommendation can be based on both explicit preferences and observed behavior, it should be noted that the claim language emphasized in the Office Action, and reproduced above, concerns generating user log scores, which user log scores are based exclusively on detected user item selections and at least one query item.

To illustrate by way of a non-limiting example, a jukebox application allows a user to make selections with respect to tracks that are played by the jukebox. The selections made by the user, such as selecting a track, repeating a track, skipping a track, scanning a track, etc. are detected. A user log is generated for each user which contains identifiers corresponding to detected user behavior. The user logs are analyzed to discover relationships between items, and

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<sup>1</sup> With regard to the amendments made to the independent claims in the Amendment and Response dated October 17, 2005, the Office Action (at page 9) contends that the “cancelled subject matter was due to [a] new matter issue”. The amendments made in the October 17, 2005 Response were not made for the reason that cancelled subject matter was new matter, since the cancelled subject matter is more than amply supported by the Application as originally filed. As was indicated in the remarks that accompanied the amendments in the October 17, 2005 Response, Applicants in no way concede the correctness of the § 112, first paragraph rejection, and continue to reserve the right to reintroduce the subject matter. The amendments were made to improve the scope and form of the claims.

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relationships discovered using the user logs can be used to make recommendations. Reference is respectfully made to paragraph no. 117 of the published Application (i.e., originally numbered as paragraph no. 115 in the Application as filed) is reproduced herein, as follows:

“[t]he present invention develops detailed behavior profiles based on observed user listening behavior. User track selections, made via jukebox 103, are monitored, along with user operations such as repeating, skipping, or scanning through tracks. Behavioral data is provided as input to a relationship discovery engine that operates as described herein. Relationship discovery takes place based on statistical analysis of track-to-track co-occurrences in observed user behavior. Recommendation engine 107 uses discovered relationships to generate suggestions of additional artists and tracks. User profiles, as stored in profile database 112, contain descriptions of analyzed play logs, as well as additional track suggestions related to the tracks the user has demonstrated he or she likes. Profiles can be modified, enhanced, or filtered, to include second- or third-level related artists or track, or to include only tracks the user does not already own. A randomization component may also be included in the development of profiles.”

Analysis of the user logs to discover relationships is described, among other places, with reference to a relationship discovery engine 1604, commencing at paragraph no. 211 of the published Application (i.e., originally numbered paragraph no. 204 of the filed Application). Referring to paragraph no. 212 of the published Application (i.e., originally paragraph no. 205 in the Application as filed), according to one embodiment, a query weight is determined by its occurrence in a play log (if a query item is absent in the play log, its weight is zero), and a user score with respect to a query is the sum across all query items (e.g., a track) multiplied by a selected play log weighting scheme.

Based at least on the foregoing discussion, it should be apparent that the Application as originally filed provides more than adequate support for the amendments made herein.

Reconsideration and withdrawal of the § 112, first paragraph rejection are therefore requested.

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Applicants are amending Claim 1 to further clarify that a relationship is discovered based exclusively on detected user item selections and at least one query item of a query. Support for the amendment can be found, among other places, in the paragraphs discussed herein.

Claims 1, 4 to 27, 32, 33, 39, 42 to 59, 62 to 85, 91 and 92 are rejected under 35 U.S.C. §§ 102(e) and 103(a) over U.S. Patent No. 6,438,579 (Hosken), and Claims 2, 3, 28 to 31, 34 to 38, 40, 41, 60, 61, 86 to 90 and 93 to 97 are rejected under 35 U.S.C. § 103(a) over Hosken and U.S. Patent No. 6,438,579 (Lazarus).

Applicants renew their request for a showing to establish that U.S. Provisional Application No. 60/144,377 (Hosken '377) provides full support, in compliance with 35 U.S.C. § 112, for the subject matter of Hosken relied-upon in the Office Action. See MPEP § 2136.03 (III). In response to Applicants previous request and in the current Office Action, the Examiner concedes that Hosken can only be prior art by relying on the filing date of Hosken '377. However, the current Office Action fails to provide a showing that the subject matter relied on in Hosken (i.e., the abstract, Figures 2, col. 2, line 52 to col. 3, line 34, col. 4, lines 11 to 55, col. 5, line 8 to col. 6, line 67, col. 8, line 38 to col. 13, line 25 and col. 12, line 10 to col. 16, line 53) is fully supported by Hosken '377, in compliance with 35 U.S.C. § 112.

While the Office Action contends (at pages 9 and 10) that page 5, lines 6 to 20, page 11, line 4 to page 12, line 6, page 8, lines 14 to 25, pages 10 to 13 and Figures 2b to 5 of Hosken '377 disclose the claimed invention, it is respectfully pointed out that Hosken '377 is not being applied against the claims of the present application, and is not referenced in any of the grounds for rejecting the claims.

Accordingly, Applicants renew their request for the Examiner to provide a showing to establish that each and every portion of the subject matter of Hosken relied upon to reject the

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claims of the present application is fully supported by Hosken '377, in accordance with 35 U.S.C. § 112 and MPEP § 2136.03 (III).

While it is not applied against the claims of the present invention, Applicants submit that Hosken '377 fails to teach, suggest or disclose scoring user logs, the scoring being responsive to a degree of occurrence of the at least one query item identifier in the user logs, so as to generate user logs score based exclusively on detected user item selections and the at least one query item. In addition, Hosken '377 fails to teach, suggest or disclose determining at least one result item response to a degree of occurrence in at least a subset of scored user logs, so as to discover at least one relationship based exclusively on detected user item selections and the at least one query item.

Hosken '377 describes a system for generating a music recommendation using predefined relationships established for content (i.e., artists, genres, and albums) and user-cluster relationships (i.e., clusters of users) to generate a combined content and collaborative recommendation. While Hosken '377 determines correlations in generating a collaborative recommendation, Hosken '377 does not provide any description of the process used to determine a correlation. Furthermore, Hosken '377 indicates that a correlation is performed using a user's favorites input table and a cluster table, and using two user profiles. However, both of the correlations performed in Hosken '377 involve tables which are not the same as a user log, which contains identifiers corresponding to detected user item selections. In addition, the correlations performed in Hosken '377 are not based exclusively on detected user item selections and the at least one query item.

Furthermore, nothing in Hosken can be said to teach, suggest or disclose determining at least one result item responsive to a degree of occurrence in at least a subset of scored user logs,

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so as to discover at least one relationship based exclusively on detected user item selections and at least one query item.

Claim 1 (and the claims that depend from Claim 1) is therefore believed to be patentable over Hosken '377. Claims 39 and 59 (and the claims that depend from Claims 39 and 59) are also believed to be patentable over Hosken '377 for at least the same reasons.

Turning to independent Claims 34 and 93, among the features recited therein, is a feature of generating, based on a determined log likelihood ratio, a representation of a relationship between a first item and a second item based on implicit user behavior. Although it has not been applied against the claims, in view of the above discussion, Hosken '377 fails to show at least this feature of the claims.

Lazarus has been reviewed and nothing in the cited portions of Lazarus remedies the deficiencies noted above with respect to Hosken '377. Accordingly, Claims 34 and 93 (and the claims that depend from Claims 34 and 93) are believed to be in condition for allowance.

In view of the foregoing, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

The Applicant respectfully requests that a timely Notice of Allowance therefore be issued in this case. Should matters remain which the Examiner believes could be resolved in a further telephone interview, the Examiner is requested to telephone the Applicant's undersigned attorney.

In this regard, Applicant's undersigned attorney may be reached by phone in California (Pacific Standard Time) at (714) 708-6500. All correspondence should continue to be directed to the below-listed address.

The Commissioner is hereby authorized to charge any required fee in connection with the


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submission of this paper, any additional fees which may be required, now or in the future, or  
credit any overpayment to Account No. 50-2638. Please ensure that the Attorney Docket  
Number is referred when charging any payments or credits for this case.

Respectfully submitted,

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